

## ABSTRACT OF THE DISCLOSURE

Fused silica injected or created by pyrolysis of  $\text{SiCl}_4$  are introduced in a powder state into a vacuum chamber. Pluralities of jet streams of fused silica are directed towards a plurality of heated substrates. The particles attach on the substrates and form shaped bodies of fused silica called preforms. For uniformity the substrates are rotated. Dopant is be added in order to alter the index of refraction of the fused silica. Prepared soot preforms are vitrified in situ. Particles are heated, surface softened and agglomerated in a mass and are collected in a heated crucible and are softened and flowed through a heated lower throat. The material is processed into quartz plates and rods for wafer processing and optical windows.

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